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Diagenesis of carboniferous carbonate rocks reservoirs case study: (Central part of Volga-Ural basin)

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Abstract

Nowadays carbonate reservoirs of oil and gas have a great practical interest and scientific value. They contain about 40%world reserves of oil. Many publications considered diagenesis of carbonate rocks, but many of them haven't historical and genetically analyses of diagenetic changes. Most of carbonate reservoirs formed after sedimentation and consolidation of rocks, so historical sequence of diagenetic changes is very important for understanding of forming oil reservoirs. Different types of changes form in different time of evolution carbonate rocks and also when these rocks become reservoir rocks. Moreover, some of the diagenetic changes realize on stage of destruction oil deposits, after forming reservoir rocks. They have specific localization in different part of oil reservoirs. One of them characterizes oil-water contact zones, others - reservoir zones. Large caves of nonselectivedissolution, secondary dolomites and calcification of voids are typical complex of diageneticchanges of water-oil contact zones. In addition was identifying correlation between composition of petroleum and types of mineralogical changes into petroleum reservoir. Identification of mineral indicators of destroying oil reservoirs is important experience for optimization of exploration oil deposits. Also, this is important for understanding of evolution reservoirs in time. © IDOSI Publications, 2013.

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Keywords

Carbonate, Diagenesis, Mineral indicators, Petroleum composition, Reservoir